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EXAMINER

BENGZON, GREG C

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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### **DETAILED ACTION**

This application has been examined. Claims 1, 4-6, 8-15, 18-26, 39-42, 45,47-54 are pending. Claims 2, 3, 7,16-17, 23-38, 43,44,46 are cancelled.

### ***Making Final***

Applicant's arguments filed 10/14/2009 have been fully considered but they are not persuasive.

The Examiner is maintaining the rejection(s) using the same grounds for rejection and thus making this action FINAL.

### ***Priority***

The effective date of the claims described in this application is February 1, 2000.

### ***Response to Arguments***

Applicant's arguments filed 10/14/2009 have been considered but are not persuasive.

The Applicant presents the following argument(s) *[in italics]*:

*...neither of these teachings of Tadokoro discloses the claimed control of an action and determination of physical parameters of the identified tool to determine when to initiate the action. For while a user can monitor a cutting machine and place a job order, Tadokoro in fact teaches that jobs must be manually initiated and later confirmed as complete...*

The Examiner respectfully disagrees with the Applicant.

Tadokoro disclosed hyperlinks for controlling the machine, said hyperlinks indicating what function is to be performed by the machine tool. (Tadokoro -Column 4 Lines 45-65, Column 26 Lines 45-65)

The Examiner notes that the claim language indicates receiving a URL request from a client. Upon inspection of the Applicant Specifications Page 28 Lines 5-10 the Examiner interprets this limitation as requiring manual intervention by a human operator. The Examiner does not detect any distinction between the claimed invention and the prior art regarding the input/initiation limitation.

The Examiner notes that claim language indicates wherein the completion is indicated by an event report.

Tadokoro disclosed event reports indicating completion of the requested action. (Tadokoro-Column 28 Lines 40-45, *Once the job is confirmed as complete, the status of the record in the database is changed to "Completed", and the Schedule page is served again with the updated status*)

The Examiner does not detect any distinction between the claimed invention and the prior art regarding the completion report.

The Applicant presents the following argument(s) [*in italics*]:

*Applicants submit that Tadokoro's teaching of receiving status updates from a virtual machine is not equivalent to...awaiting an initiate processing acknowledge from the tool itself, followed by awaiting an event report from the tool indicating completion of the action.*

The Examiner respectfully requests further clarification regarding these limitation since the Applicant did not provide any rationale regarding this interpretation.

The Applicant remarks appear to imply that the Tadokoro cutting machine is unable to send messages to the Machine Monitor (Tadokoro-Column 17 Lines 40-45) without prompting from the said MM. The Examiner respectfully disagrees with the Applicant regarding this interpretation.

As indicated above, the Examiner does not detect any distinction between the claimed invention and the prior art regarding the input/initiation limitation. The Applicant Specifications require that an *initiate processing request* must be sent before the *initiate processing acknowledge* response.

Tadokoro disclosed *awaiting an initiate processing acknowledge from the tool itself, followed by awaiting an event report from the tool indicating completion of the action.*

Tadokoro disclosed (re. Claim 1) *awaiting an initiate processing acknowledge from the tool; upon receipt of said initiate processing acknowledge from the tool, awaiting an event report from the tool indicating completion of the action.* (Tadokoro-Column 18 Lines 20 Lines 20-25, 'request status of virtual machine component', Column 19 Lines 50-55, ' VM responds with status indicating completion' )

The Examiner notes that the process of requesting status and receiving status from the tool device is equivalent to *awaiting an initiate processing acknowledge from the tool and awaiting an event report from the tool indicating completion of the action.*

The Applicant presents the following argument(s) [*in italics*]:

*... the "objects" which are identified in Haverstock's URL are software objects such as documents and databases, and the action identified in Haverstock's URL is a software function. Haverstock discloses such software- related actions as opening, creating, deleting (Col. 5, line 64) and sorting (Col. 6, line 11), which only apply to software objects. In contrast, Applicant's claimed function field identifies a physical function that is to be carried out by a semiconductor processing tool. A processing tool is not subject to opening, creating, deleting, and sorting in the same manner that a software object may be so manipulated. Thus, Haverstock does not disclose the Applicant's claimed object field and function field.*

The Examiner respectfully disagrees with the Applicant.

Tadokoro disclosed *databases or applications that are linked in any way to real-world physical devices*. (Tadokoro -Column 4 Lines 45-65, Column 26 Lines 45-65)

Where Haverstock disclose a URL to invoke the Tadokoro applications for controlling the cutting machines then Tadokoro-Haverstock disclosed a URL for *identifying a physical function that is to be carried out by a semiconductor processing tool*.

The Applicant presents the following argument(s) [*in italics*]:

*... contrary to the Examiner's statement, Haverstock is not analogous art presenting concepts and practices regarding distributed software components for controlling machines remotely via a network, for Haverstock does not relate to the control of machines, remotely or otherwise.*

The Examiner respectfully disagrees with the Applicant.

Haverstock disclosed wherein a user may also input action commands and arguments in the URL. The server locates and retrieves the object and processes the actions and arguments identified in the URL. Where the client and server are connected via a network then Haverstock disclosed controlling machines remotely via a network.

Rangachari, Tadokoro, Tenney, and Haverstock are analogous art because they present concepts and practices regarding distributed software components for controlling machines remotely via a network. It would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have

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incorporated Haverstock's teachings of a URL with action commands into Rangachari-Tadokoro-Tenney for the purpose of allowing system users to retrieve objects and identify actions with a single input command without requiring programming code.  
(Haverstock-Column 5 Lines 40-45)

The Applicant presents the following argument(s) *[in italics]*:

*... the hyperlinks as taught by Tadokoro ...require a user to navigate additional forms and pages in order to enter data. It is precisely this type of form-based complexity which is alleviated by the Applicant's claimed invention, in which object and function information is embedded in a URL.*

The Examiner respectfully disagrees with the Applicant.

The Examiner notes that the claim language does not indicate how the URL is formed or input into the client system, such that the client system is able to include URL information on the request, without navigating HTML forms and pages in order to enter data.

The Examiner further notes that there is no indication of any physical tool device receiving the request and recipient device varying the operation of said device according to the information in the request.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *'wherein the URL is input to the system via user input on keyboard without*



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*navigating forms and pages in order to enter data'*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The Applicant presents the following argument(s) [*in italics*]:

*... Haverstock's URL is a retrieval mechanism which enables users to "retrieve [software] objects and identify actions" (Col. 5, line 42) for those software objects. The objects and/or results of the actions are retrievable through a web browser, and presented to a user through a computer system. In contrast, Applicant's claimed URL identifies a physical tool in an object field and enables commands in a function field to be propagated to the tool, resulting in a real-world activity such as processing of semiconductor wafers. A physical tool cannot be "retrieved" through a web browser, nor can the physical objects which result from an identified function carried out by such a tool (e.g. processed wafers) be presented to a user through a computer system. Thus, one skilled in the art would not have been motivated to look to Haverstock's URL mechanism, as it does not relate to the operation of a physical tool.*

The Examiner respectfully disagrees with the Applicant.

Tadokoro disclosed wherein *commands in a function field to be propagated to the tool, resulting in a real-world activity such as processing of semiconductor wafers.*

Haverstock is not relied upon to disclose *operation of a physical tool*. Rather Haverstock is relied upon to disclose a URL for invoking software. Haverstock disclosed

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wherein a user may also input action commands and arguments in the URL. The server locates and retrieves the object and processes the actions and arguments identified in the URL.

Rangachari, Tadokoro, Tenney, and Haverstock are analogous art because they present concepts and practices regarding distributed software components for controlling machines remotely via a network. It would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Haverstock's teachings of a URL with action commands into Rangachari-Tadokoro-Tenney for the purpose of allowing system users to retrieve objects and identify actions with a single input command without requiring programming code. (Haverstock-Column 5 Lines 40-45)

The Applicant presents the following argument(s) *[in italics]*:

*... Applicant has amended independent claims 1 and 15 to include the features of awaiting an initiate processing acknowledge from the tool, and upon receipt of the initiate processing acknowledge from the tool, awaiting an event report from the tool indicating completion of the action...These features...are not taught by the prior art of record.*

The Examiner respectfully disagrees with the Applicant.

Tadokoro disclosed re. Claim 1) *awaiting an initiate processing acknowledge from the tool; upon receipt of said initiate processing acknowledge from the tool, awaiting an event report from the tool indicating completion of the action.* (Tadokoro-Column 18 Lines 20 Lines 20-25, 'request status of virtual machine component', Column 19 Lines 50-55, ' VM responds with status indicating completion' )

The Examiner notes that the process of requesting status and receiving status from the tool device is equivalent to *awaiting an initiate processing acknowledge from the tool and awaiting an event report from the tool indicating completion of the action.*

The Applicant presents the following argument(s) *[in italics]*:

*... the combination of Haverstock and Tadokoro would merely produce a data-retrieval mechanism that enables one to retrieve status information, and identify an action in a URL to be performed on that status information....Haverstock and Tadokoro in combination fail to teach a system capable of effecting a physical activity carried out by a processing tool as designated in fields of a URL, as claimed by the Applicant.*

The Examiner respectfully disagrees with the Applicant.

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While Tadokoro disclosed obtaining data from cutting machine Tadokoro is not limited to this embodiment. Tadokoro produces a tangible, physical, and material result from a physical activity carried out by a cutting machine.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6, 8-11, 15, 18-24, 39-42, 45, 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rangachari et al. (US Patent 6470227), in view of Tadokoro et al. (US 6463352), further in view of Tenney et al. (US Patent 6944584) further in view of Haverstock (US Patent 6192415).

Rangachari disclosed (re. Claim 1) receiving a first request from the remote client system via the network; (see Rangachari, Col. 8, lines 43-46, Col. 9, lines 22-42, Col. 10, lines 45-51)

determining a function to be performed (see Rangachari, Col. 10, lines 52-64, Column 14 Lines 25-35) based at least in part on a first predetermined field contained in said first request; and

sending a first message to the tool in response to said first request and said first type, wherein said first message is operable for controlling an action of said tool (see Rangachari, Col. 6, lines 26-51, Col. 7, lines 20-24 and Col. 8, lines 17-20)

However Rangachari did not disclose (re. Claim 1) using a first predetermined field in a portion of said first request.

While Rangachari disclosed a user interface that a user manipulates for automated control of the devices (Rangachari- Column 9 Lines 33-40, Column 10 Lines 35-60) via the Internet (Rangachari-Column 6 Lines 20-25), Rangachari did not disclose utilizing a Web browser.

Rangachari did not disclose (re. claim 1) a uniform resource locator path including a function field and an object field and determining a function to be performed based on said function field in said uniform resource locator path.

Rangachari did not disclose (re. Claim 1) the object field and the function field identifying a tool object model for an identified tool, the tool object model providing a logical description for use in an automatic control environment of the factory and associated with the plurality of tools; wherein the logical description provided by the tool object model enables the control of the action and determination of physical parameters of the identified tool to determine when to initiate the action.

Rangachari did not disclose (re. Claim 1) *awaiting an initiate processing acknowledge from the tool; upon receipt of said initiate processing acknowledge from the tool, awaiting an event report from the tool indicating completion of the action.*

Tadokoro disclosed (re. Claim 1) using a first predetermined field in a portion of said first request. See Tadokoro, Col. 10, lines 1-25.

Tadokoro disclosed (re. Claim 1) disclosed (re. Claim 1) the object field and the function field identifying a tool object model for an identified tool, (Tadokoro -Column 4 Lines 45-65) the tool object model providing a logical description for use in an automatic control environment of the factory and associated with the plurality of tools; wherein the logical description provided by the tool object model enables the control of the action (Tadokoro -Column 4 Lines 45-65, Column 19 Lines 5-15) and determination of physical parameters of the identified tool to determine when to initiate the action. (Tadokoro -Column 4 Lines 45-65, Column 26 Lines 45-65)

Tadokoro disclosed (re. Claim 1) *awaiting an initiate processing acknowledge from the tool; upon receipt of said initiate processing acknowledge from the tool, awaiting an event report from the tool indicating completion of the action.* (Tadokoro-Column 18 Lines 20 Lines 20-25, 'request status of virtual machine

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*component', Column 19 Lines 50-55, ' VM responds with status indicating completion' )*

Rangachari and Tadokoro are analogous art because they present concepts and practices regarding distributed software components for controlling machines remotely via a network. It would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Tadokoro's teachings of a system for controlling software components for machines in a distributed manner with the teachings of Rangachari, for the purpose of improving workflow efficiency of a system by better monitoring processes, thereby preventing bottlenecks (see Tadokoro, Col. 2, lines 10-25).

Tenney disclosed (re. Claim 1) using a Web browser for controlling motions of devices. (Tenney-Column 6 Lines 55-65)

Haverstock disclosed (re. Claim 1) a server to respond to a URL requests containing action commands from a browser. Action commands and additional arguments are input into the URL. The server receives the request for the URL and

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processes the actions and arguments identified in the URL. (Haverstock-Column 3 Lines 10-20, Column 5 Lines 20-35) Thus Haverstock disclosed (re. Claim 1) a uniform resource locator path including a function field and an object field and determining a function to be performed based on said function field in said uniform resource locator path.

Rangachari, Tadokoro, Tenney, and Haverstock are analogous art because they present concepts and practices regarding distributed software components for controlling machines remotely via a network. It would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Tenney's teachings of a system for controlling software components for machines in a distributed manner with the teachings of Rangachari-Tadokoro, for the purpose of using non-proprietary network protocols for simplified network communications (Tenney-Column 2 Lines 10-15). Similarly it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Haverstock's teachings of a URL with action commands into Rangachari-Tadokoro-Tenney-Haverstock for the purpose of allowing system users to retrieve objects and identify actions with a single input command without requiring programming code. (Haverstock-Column 5 Lines 40-45)



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Rangachari-Tadokoro-Tenney-Haverstock disclosed (re. Claim 4) wherein said tools return at least one second message associated with said first action, said method further comprising the step of caching said at least one second message (see Rangachari, Col. 13, lines 50-64, Column 15 Lines 10 and Tadokoro, Col. 13, lines 12-28).

The motivation to combine described in Claim 1 applies to Claim 4.

Rangachari-Tadokoro-Tenney-Haverstock disclosed (re. Claim 5) receiving a second request and generating a response to the second request using said second message (Rangachari teaches that methods are invoked between application objects and servers to perform specific tasks outlined within a message), (see Rangachari, Col. 10, lines 52-64, Figure 1J).

The motivation to combine described in Claim 1 applies to Claim 5.

Rangachari-Tadokoro-Tenney-Haverstock disclosed (re. Claim 6) the step of sending said response to a client system initiating said first and second requests (Rangachari teaches that the client is notified of the completion of a task along with any attributes that are need), see Rangachari, Col. 10, lines 64-67, Col. 11, lines 1-3.

The motivation to combine described in Claim 1 applies to Claim 6.

Rangachari-Tadokoro-Tenney-Haverstock disclosed (re. Claim 8) receiving a connection request and opening a connection to a client, said connection being

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operable for communicating requests and responses to said requests (Tadokoro teaches HTTP requests), (see Tadokoro, Col. 12, lines 43-45).

The motivation to combine described in Claim 1 applies to Claim 8.

Rangachari-Tadokoro-Tenney-Haverstock disclosed (re. Claim 9) receiving a second request from said client system via said network (see rejection of claim 1 , supra), said second request selected from the group consisting of information requests, expand requests and edit requests (see Tadokoro, Figures 10-14), wherein, in response to said information requests, an HTML page is generated using a set of selected data for a tool object corresponding to a managed tool for sending to said client system, as well as in response to said edit requests, an HTML page is generated having a portion operable for user entry of one or more values for modifying a tool object attribute for sending to said client system and in response to said expand request an HTML page is generated using a set of child object names and relations to a parent object identified in said expand request for sending to said client (Tadokoro, Col. 8, lines 10-37, Col. 9, lines 1-9, Col. 12, lines 21-44).

The motivation to combine described in Claim 1 applies to Claim 9.

Rangachari-Tadokoro-Tenney-Haverstock disclosed (re. Claim 10) wherein said first request denotes an execute request (see Rangachari, Col. 10, lines 52-64).

The motivation to combine described in Claim 1 applies to Claim 10.

Rangachari-Tadokoro-Tenney-Haverstock disclosed (re. Claim 11 ) the limitations of these claims are substantially the same as that of claim 1 , and thus are rejected for the same rationale in rejecting those claims.

Rangachari-Tadokoro-Tenney-Haverstock disclosed (re. Claim 14) wherein said first request is transferred in accordance with the hypertext transfer protocol (HTTP), and said portion corresponds to a uniform resource locator (see Tadokoro, Col. 10, lines 1-47).

The motivation to combine described in Claim 1 applies to Claim 14.

Claims 15, 18-24, 41-42, and 45 present a data processing system with the same limitations as Claims 1, 4-6, 8-11, and 39-40.

Claims 15, 18-24, 41-42, and 45 are rejected on the same basis as Claims 1, 4-6, 8-11, and 39-40.

The motivation to combine described in Claim 1 applies to Claim 15, 18-24, 41-42, and 45.

Rangachari-Tadokoro-Tenney-Haverstock disclosed (re. Claim 47,48) wherein said first network and said second network utilize the same local area network.

(Tenney-Figure 9 Column 11 Lines 5-25)

The motivation to combine described in Claim 1 applies to Claims 47,48.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-13, 25-26, 49-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rangachari et al. (US Patent 6470227), in view of Tadokoro et al. (US 6463352), further in view of Tenney et al. (US Patent 6944584) further in view of Haverstock (US Patent 6192415) further in view of Nilsen (US Patent 6081665).

Rangachari-Tadokoro-Tenney-Haverstock disclosed (re. Claim 12-13,25-26,49-50,52-53) the limitations of these claims are substantially the same as that of claim 1.

The Examiner notes that Rangachari Column 9 Lines 30-35 disclosed modifying fabrication workflows using scripts. Tenney Column 10 Lines 45-55 disclosed controlling machines using JavaScript and new robot control programs developed by

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the user and further described remote method invocation protocols. Tenney strongly suggests overriding existing control programs with user-designed programs. Thus the combined disclosures of Rangachari-Tadokoro-Tenney-Haverstock would lead a person of ordinary skill in the art to look for details regarding method invocation protocols.

However Rangachari-Tadokoro-Tenney-Haverstock did not disclose (re. Claims 12-13,25-26,49-50,52-53) overriding said tool object method by of parsing a script, determining if said script source includes a method signature matching a method signature of said tool object method, and if so, executing a corresponding portion of said script. Rangachari-Tadokoro-Tenney-Haverstock did not disclose (re. Claims 12-13,49-50,52-53) indicating that the default method has been overridden in an override registry list.

Nilsen disclosed (re. Claims 12-13,25-26,49-50,52-53) overriding said tool object method by of parsing a script, determining if said script source includes a method signature matching a method signature of said tool object method, and if so, executing a corresponding portion of said script. Rangachari-Tadokoro-Tenney-Haverstock did not disclose (re. Claims 12-13,49-50,52-53) indicating that the default method has been overridden in an override registry list.

Nilsen Column 14 Lines 25-35 disclosed matching method signatures in order to find the method being invoked. Furthermore Nilsen method invocation protocols disclosed checking pointers to a method's data structures (Column 13 Lines 35-45) in order to check for which version of the method is being requested to run.

Nilsen notes that while Nilsen did not mention parsing it would have been well-known in the software development art to parse the received method invocation request for the method name and arguments being requested.

The Examiner notes that the pointers are values in a computer register memory (Nilsen-Column 4 Lines 50-55) and the modifications to said pointers are the equivalent of an changing an indicator on an override registry list.

At the time of the invention it would have been obvious to combine the disclosures of Nilsen into Rangachari-Tadokoro-Tenney-Haverstock for the purpose of implementing user-customized control programs in real-time web applications such as robotics (see Nilsen-Column 2 Lines 30-45). The motivation for said combination would have been to enable a virtual machine execution model that eliminates the need for complication cross-compiler development systems, multiple platform version maintenance, and extensive rewriting and retesting each time the software is ported to a new host processor.

Rangachari-Tadokoro-Tenney-Haverstock-Nilsen disclosed (re. Claims 51,54) wherein the signature is selected from the group consisting of a name, a return type, and a set of arguments. (Nilsen- Column 16 Lines 20-35)

### ***Conclusion***

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please refer to the enclosed PTO-289 form.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Bengzon whose telephone number is (571) 272-3944. The examiner can normally be reached on Mon. thru Fri. 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571)272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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/G. B./

Examiner, Art Unit 2444

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2444